BRITISH COLUMBIA LAND STATISTICS

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Introduction

This document is a collection of the province's land base statistics, covering four major components of a land information system: land quality, land status, land use and land cover. With these statistics now consolidated into a single source, individuals interested in provincial land statistics can more easily and quickly extract information about land in the province.

This document is organized into two general parts. The first part contains an overview of provincial land statistics. It includes summary tables for each type of land information (cover, status, use and quality), as well as a summary of historical and current statistics pertaining to the administration of Crown land in British Columbia.

The second part provides highlights and tables for specific resource uses such as agriculture, forestry, grazing, wildlife, recreation, mining and various settlement uses. Statistics in this report provide information on land at a broad provincial level. It should be noted that because of definitional inconsistencies not all of the statistics are directly comparable from one resource sector to another. The following statistics are presented as given by the various reporting agencies and are not rounded. Information sources reflect government restructuring of July, 1988.

Listed in the tables throughout this report are designated symbols used to indicate non-conforming data sets. These are as follows:

- "N.A." represents data not applicable;
- "N.D." represents no data available; and
- "—" represents data less than 0.01 percent.

British Columbia Land Statistics Highlights

Size and Ownership

- British Columbia is the third largest province in Canada, covering an area of approximately 94.8 million hectares.
- Over 92% of the province is Crown provincial land. Of the remainder, 7% is privately owned with Federal lands occupying only 1%.

Land Cover

- About 3% of B.C. is denuded or bare surface, water occupies 2%, and less than 1% is constructed cover.
- Trees cover over half the province, and almost one-third is covered by grasses and other non-woody vegetation.
- Wetlands cover approximately 3% of the province.

Agricultural Land

- Agricultural land in B.C. having the capability to support and grow a wide range of crops (CLI Classes 1-3) occupies less than 1% or 950,000 hectares of the provincial land area.
- By 1986, approximately 2.4 million hectares of land in the province were classified as Census farmland.

Forestry

- Provincial forests and Tree Farm Licences cover 85% of the province's land base. Prime forest lands (CLI Classes 1-4) occupy 37 million hectares or 43% of B.C.'s land area.
- Only 22.6 million hectares or 30% of all forest lands in B.C. are considered productive, presently available and suitable for timber production.

Aquatic Land

- In December 1987, there were 540 operating aquaculture farms, covering over 2400 hectares and producing finfish, shellfish and plants.

Protected Lands

- There were 378 provincial parks, nature conservancies and recreation areas in B.C. in 1988, covering an estimated 5.4 million hectares or 5.8% of the total land area of B.C.
- There are 115 ecological reserves in the province occupying over 154,000 hectares of which nearly one-third are marine or sub-tidal.

Mineral Land

- An estimated 3% of the province's sub-surface land has high potential for mineral and coal production.
- Approximately 4.7 million hectares of land are currently under claims or permits for mineral, petroleum or natural gas exploration.

Urban Development

- Approximately 7,166 hectares of rural land were converted to urban uses between 1981 and 1986 in the 7 largest urban-centred regions of the province.

Watersheds

- The province's 327 designated watershed areas occupied over 1.4 million hectares of land. By December 1987, these watershed areas served an estimated population of 525,000.

Provincial Overview

British Columbia has 94.8 million hectares of land and freshwater bodies comprising 9.5 percent of the national land area (Table 1). Province-wide statistics for this land base are described in terms of land quality, land status, land use and land cover. These attributes comprise the basic elements of a land information system.

TABLE 1

LAND AND FRESHWATER AREA BY PROVINCE OR TERRITORY ('000s hectares)

Province or Territory	Land Area	Freshwater Area	Total Area	Percent
British Columbia	**92,973**	**1,807**	**94,780**	**9.5**
Alberta	64,439	1,680	66,119	6.6
Saskatchewan	57,070	8,163	65,233	6.5
Manitoba	54,836	10,159	64,995	6.5
Ontario	89,119	17,739	106,858	10.7
Quebec	135,679	18,389	154,068	15.5
New Brunswick	7,209	135	7,344	0.7
Nova Scotia	5,284	265	5,549	0.6
Prince Edward Island	566	0	566	0.1
Newfoundland	37,169	3,403	40,572	4.1
Yukon Territory	47,897	448	48,345	4.8
Northwest Territories	329,302	13,330	342,632	34.4
Canada	**921,543**	**75,518**	**997,061**	**100.0**

Source: Energy, Mines and Resources Canada, Geographical Mapping Division

Land Quality

Land quality is defined as the inherent capability of land to support specific land use activities. The seven-class CLI (Canada Land Inventory) system of land capability for agriculture, wildlife and recreation provides the best representation of land quality at the provincial level for these resource uses. The forest site classification system, used by the Ministry of Forests, indicates forest land capability. Land quality data for each of these resource uses are shown in Table 2.

It is evident from the statistics in this table that there is little land in the province with a high capability to support agriculture, forestry, wildlife or recreation uses. Most land tends to have only moderate to low capability. Moreover, land with a high capability to support one type of resource use often has soil and terrain characteristics making it highly capable for other land uses. The result is often competition for the use of the already limited productive lands in the province.

TABLE 2

LAND QUALITY FOR SELECTED RESOURCE USES IN BRITISH COLUMBIA (hectares)

FORESTRY

Site Class	Good	Medium	Poor	Total
Mature	2,171,659	9,797,476	12,993,926	24,963,061
Immature	1,148,798	5,855,897	7,971,418	14,976,113
Total	3,320,457	15,653,373	20,965,344	39,939,174

AGRICULTURE

CLI Class[1]	1	2	3	4	5	6	7	Unclassified
If Unimproved	21,055	235,451	691,958	1,701,510	6,671,015	5,418,538	15,253,305	64,787,168
If Improved	69,989	397,634	999,644	2,131,581	6,137,470	5,357,181	14,898,572	64,787,929

WILDLIFE

CLI Class[1]	1W	1	2W	2	3W	3	4 to 7	Unclassified
Ungulates	302,431	2,347	2,665,780	163,026	5,998,255	8,304,362	42,052,916	35,290,883
Waterfowl		461,176		52,235		131,691	62,057,435	32,077,463

RECREATION

CLI Class[1]	1	2	3	4	5	6	7	Unclassified
	18,612	161,339	1,028,429	4,731,590	13,944,559	36,269,084	3,286,814	35,339,573

Source: See appropriate tables in text.

[1] Canada Land Inventory Classification.

TABLE 3

LAND STATUS IN BRITISH COLUMBIA—1987

Land Status Category	Area (ha)	Percent	Percent Change Since 1984
Federal Land[1]			
National Parks	475,999	0.5	N.A.
Indian Reserves	341,077	0.4	0.8
Defence Lands	57,266	0.1	—
Transportation	15,477	—	—
Miscellaneous	31,579	—	185.2
TOTAL Federal Land	**921,398**	**1.0**	**5.2**
Provincial Land			
Provincial Forests	73,897,568	78.0	5.4
Tree Farm Licences	6,440,779	6.8	−7.1
Community Pastures	167,699	0.2	0.0
Provincial Parks	5,364,501	5.6	15.5
Regional Parks	8,128	—	3.5
Crown Land Under Land Act Tenure	379,606	0.4	−11.8
Ecological Reserves (Land Only)	107,321	0.1	6.3
TOTAL Provincial Land	**86,365,602**	**91.1**	**−0.3**
Private Land	5,686,000	6.0	3.3
TOTAL Land Area	**92,973,000**	**98.1**	N.A.
TOTAL Water Area	**1,807,000**	**1.9**	N.A.
TOTAL Area	**94,780,000**	**100.0**	N.A.

[1]Environment Canada. Lands Directorate. 1986. Canada's Federal Lands. Ottawa.

Land Status

Land status describes the tenure or ownership and the extent to which various rights to use the land have been legally reserved or assigned. Detailed statistics on land status in British Columbia are shown in Table 3.

The vast majority of land in British Columbia is provincial Crown land. Provincial forest and tree farm licence areas dominate provincial land status, occupying over 80 million hectares. Provincial parks are the second largest category of provincial Crown land, covering just under 6 percent of the province. Private lands occupy about 6 percent of the province, while federal land holdings cover 1 percent.

Historical statistics on the land area transferred to private ownership in British Columbia are shown in Table 4. This includes both federal and provincial Crown land dispositions. Some of these lands have since reverted to the Crown. A detailed breakdown of the area of Crown land currently administered under tenure by the Ministry of Crown Lands is shown in Table 5.

TABLE 4

CROWN LAND TRANSFERRED TO PRIVATE OWNERSHIP 1874–1987

Time Period	Total for Period (ha)	Percent	Cumulative Total (ha)
1874-1885	222,800	2.9	222,800
1886-1895	474,700	6.2	697,500
1896-1905	2,767,900	36.2	3,465,400
1906-1915	1,402,300	18.4	4,867,700
1916-1925	883,800	11.6	5,751,500
1926-1935	353,100	4.6	6,104,600
1936-1945	280,500	3.7	6,385,100
1946-1955	411,400	5.4	6,796,500
1956-1965	324,400	4.2	7,120,900
1966-1975	266,900	3.5	7,387,800
1976-1985	230,800	3.0	7,618,600
1986-1987	22,700	0.3	7,641,300
TOTAL [1]	7,641,300	100.0	N.A.

Source: Data compiled from Statistics Canada (1983) Historical Statistics of Canada, 2nd edition and Ministry of Crown Lands, Annual Reports for 1976 to 1987.

[1]Lands reverted to the Crown (e.g. Railway grants) are not accounted for.

TABLE 5

AREA OF CROWN LAND TENURES ADMINISTERED BY THE MINISTRY OF CROWN LANDS—1987

Tenures	Area (ha)	Percent	Percent Change Since 1984
Upland Tenures			
Agriculture (extensive)	112,358	27.5	–40.3
Agriculture (intensive)	683	0.2	–74.8
Grazing	166,844	40.8	2.4
Industrial	47,738	11.7	1069.2
Commercial	11,408	2.8	150.5
Residential	6,267	1.5	1227.8
Recreational	5,556	1.4	–10.9
Community	2,898	0.7	–25.5
Institutional	8,781	2.1	100.3
Quarrying	6,702	1.6	9.5
Transportation	992	0.2	–97.8
Communication	3,891	1.0	N.A.
Miscellaneous	5,488	1.3	104.1
TOTAL UPLAND	**379,606**	**92.8**	**–11.8**
Aquatic Tenures			
Aquaculture	3,802	0.9	897.9
Industrial	18,408	4.5	214.6
Commercial	1,765	0.4	523.7
Residential	793	0.2	N.A.
Community	443	0.1	N.A.
Institutional	2,927	0.7	N.A.
Quarry	227	0.1	N.A.
Miscellaneous	1,212	0.3	657.5
TOTAL AQUATIC	**29,577**	**7.2**	**341.3**
TOTAL TENURES	**409,183**	**100.0**	**–6.4**

Source: Ministry of Crown Lands, Land Policy Branch.

Land Use

Land use refers to the active use which man makes of the land. Categories of use include forestry, agriculture, mining, recreation and settlement uses. A provincial summary of land use is provided in Figure 1 and Table 6.

FIGURE 1

LAND USE IN BRITISH COLUMBIA—1987

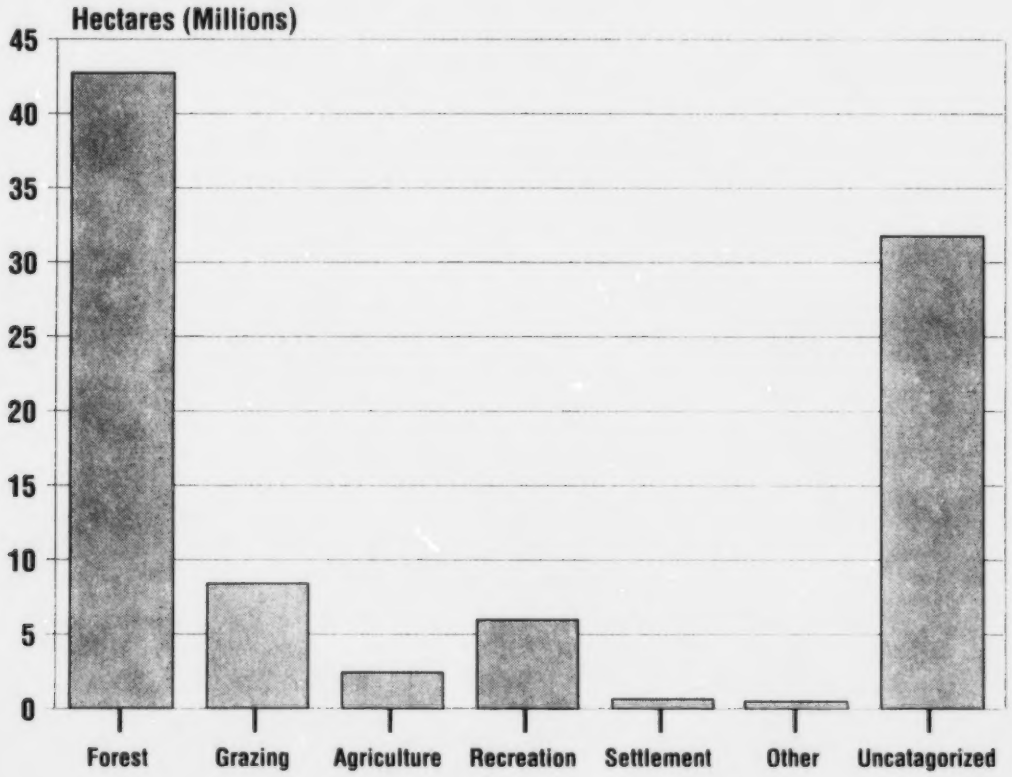


TABLE 6

LAND USE IN BRITISH COLUMBIA—1987

Land Use Activity	Area (ha)	Percent	Percent Change Since 1984
Forest (1984)			
Land Presently Available and Suitable (TFL & TSA)	22,606,572	23.8	N.A.
Not Stocked	3,560,368	3.8	N.A.
Not Available	2,383,746	2.5	N.A.
Not Suitable	14,713,917	15.5	N.A.
	43,264,603	**45.6**	—
Grazing (1984)			
Utilized Crown Range	8,322,903	8.8	N.A.
Community Pastures	167,699	0.2	N.A.
	8,490,602	**9.0**	**N.A.**
Agriculture (1986)			
Field Crops	570,843	0.6	0.5
Improved Pasture	206,428	0.2	-22.7
Summer Fallow	81,166	0.1	27.8
Unimproved Farmland	1,356,274	1.4	31.9
Other	154,515	0.2	-24.3
	2,369,226	**2.5**	**11.2**

Land Use Activity	Area (ha)	Percent	Percent Change Since 1984
Recreation			
National Parks	475,999	0.5	N.A.
Provincial Parks	5,364,501	5.7	15.5
Regional Parks	8,128	—	3.5
	5,848,628	**6.2**	**14.7**
Settlement (1986)			
Urban and Rural Settlement	295,162	0.3	6.8
Rural Transportation (Roads and Railways)	227,608	0.2	3.9
Farmstead	26,230	—	–1.7
	549,000	**0.6**	**5.3**
Mining (1984)	73,838	0.1	N.A.
Transmission Lines (1984)	39,400	—	N.A.
Pipelines (1983)	9,217	—	N.A.
Ecological Reserves (Land Only)[1]	107,321	0.1	6.3
TOTAL Determined Land Use	**60,751,835**	**64.1**	**1.6**
Uncategorized (Primarily Barren)	32,221,165	34.0	–3.0
TOTAL Land Area	**92,973,000**	**98.1**	**N.A.**
TOTAL Water Area	**1,807,000**	**1.9**	**N.A.**
TOTAL Area	**94,780,000**	**100.0**	**N.A.**

Source: See appropriate tables in text.

[1] Does include subtidal areas.

TABLE 7

LAND COVER IN BRITISH COLUMBIA

Cover Type	Area (ha)	Percent	Percent Change Since 1984
Woody Vegetation			
Forest Land (1984)			
Coniferous	35,258,223	37.2	N.A.
Deciduous	4,026,588	4.3	N.A.
	39,284,811	**41.5**	**N.A.**
Brush	1,848,142	1.9	N.A.
Transitional	8,610,723	9.1	N.A.
	10,458,865	**11.0**	**N.A.**
Census Farms (1986)			
Woodlands	154,515	0.2	-24.3
Orchards	11,249	—	-2.3
Vines	6,734	—	20.7
Shrubs	1,565	—	25.8
	174,063	**0.2**	**-21.7**
TOTAL Woody Vegetation	**49,917,739**	**52.7**	**-0.2**
Grasses and Other Non-Wood Plants			
Rangeland (1984)			
Alpine	24,040,843	25.4	N.A.
Open Range	341,736	0.3	N.A.
Wetland (1986)	3,120,000	3.3	N.A.
Clearings	167,732	0.2	N.A.
	27,670,311	**29.2**	**N.A.**
Census Farms (1986)			
Area Under Crops	570,863	0.6	3.8
Improved Pasture	206,078	0.2	-22.8
Other Improved Land	1,356,274	1.4	31.9
	2,133,215	**2.2**	**15.6**

Cover Type	Area (ha)	Percent	Percent Change Since 1984
Community Pastures (1984)	167,699	0.2	N.A.
TOTAL Grasses	**29,971,225**	**31.6**	**6.1**
Denuded (Bare) Surfaces			
Non-Vegetated (1984)	2,611,092	2.8	N.A.
Summer Fallow (1986)	81,166	0.1	27.8
TOTAL Denuded Surfaces	**2,692,258**	**2.9**	**0.7**
Constructed Cover			
Built-up Land (1986)			
Urban and Rural Settlement	295,162	0.3	6.7
Rural Transportation (Road and Rail)	227,608	0.3	3.9
Farmstead	26,230	—	0.6
	549,000	**0.6**	**5.3**
Industrial Parks (1984)	15,109	—	N.A.
Mining Lands (1984)	73,838	0.1	N.A.
Transmission Lines (1983)	39,430	—	N.A.
Pipelines (1983)	9,217	—	N.A.
	137,594	**0.1**	**N.A.**
TOTAL Constructed Cover	**686,594**	**0.7**	**4.2**
Unclassified			
Parks	5,848,759	6.2	N.A.
Wildlife Lands	18,800	—	N.A.
Wildlife Management Areas	16,600	—	N.A.
Ecological Reserves (Land)	107,321	0.1	7.3
Other	3,713,704	3.9	-39.9
TOTAL Unclassified	**9,705,184**	**10.2**	**-15.1**
Water	1,807,000	1.9	N.A.
TOTAL Area	**94,780,000**	**100.0**	**N.A.**

Source: See appropriate tables in text.

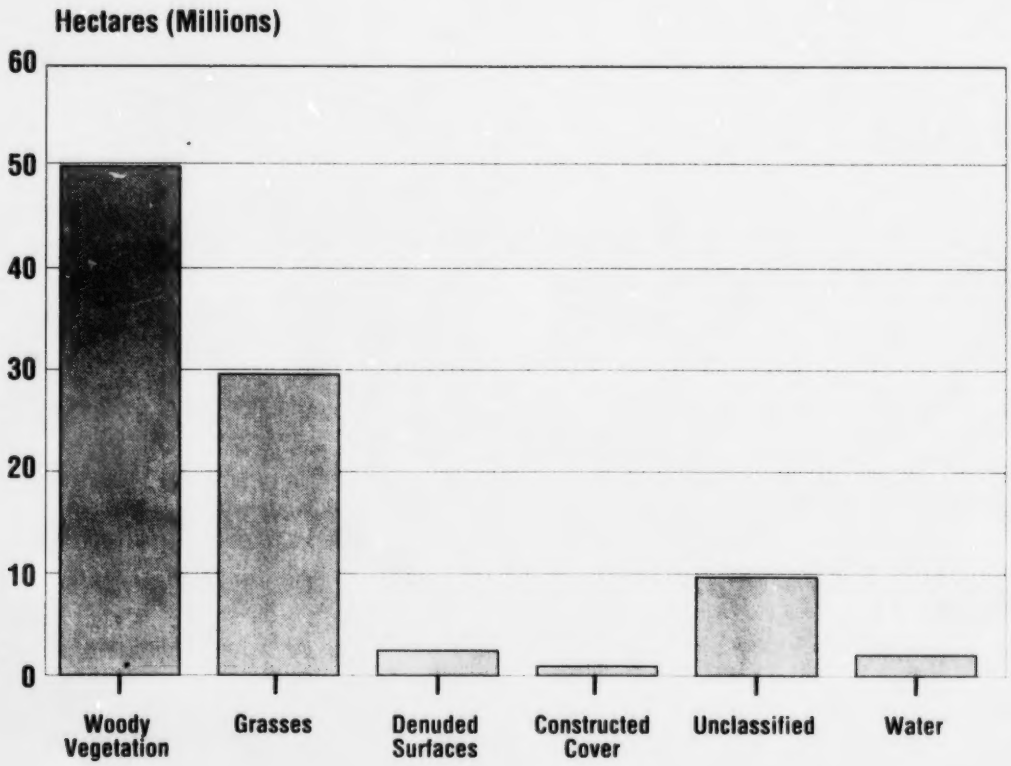
Land Cover

Land cover refers to the vegetation and artificial construction covering the land surfaces, and is described in the following general categories: woody vegetation (primarily forest cover); grassland; denuded (or barren) surfaces; constructed cover; and water. Available data on land cover are summarized in Table 7 and presented in Figure 2.

Approximately half of the province is covered by woody vegetation, which includes productive forest land as well as private woodlots and orchards. Grassland is the second most dominant form of land cover, and comprises alpine tundra, open range, transitional forests as well as agricultural lands. The remaining cover categories, denuded cover, constructed cover and water, occupy less than 6 percent of the total land base.

FIGURE 2

LAND COVER IN BRITISH COLUMBIA



Agricultural Land

Only a small portion of the province's land base has the capability to support agricultural production. Using the Canada Land Inventory agricultural land capability ratings of Class 1, 2 and 3 lands, which define lands capable of growing a wide range of crops, only 950,000 hectares or less than 1 percent of the province's land area can be considered highly productive agricultural land. While a further 2.6 million hectares of Class 4 land are available for agricultural production in British Columbia, the possible range of crops that can be grown on this land is relatively restricted unless special management practices are implemented.

TABLE 8

SOIL CAPABILITY FOR AGRICULTURE IN BRITISH COLUMBIA

Capability Class[1]	Unimproved Rating (ha)	Percent	Improved Rating[2] (ha)	Percent
1	21,055	—	69,989	0.1
2	235,451	0.3	397,634	0.4
3	691,958	0.8	999,644	1.1
4	1,701,510	1.8	2,131,581	2.3
5	6,671,015	7.2	6,137,470	6.6
6	5,418,538	5.8	5,357,181	5.8
7	15,253,305	16.4	14,898,572	16.0
Not classified	62,980,168	67.7	62,980,929	67.7
TOTAL Land Area	**92,973,000**	**100.0**	**92,973,000**	**100.0**

Source: Environment and Land Use Committee Secretariat (1976), Agriculture Land Capability in British Columbia, ARDA Project No. 89077.

[1] Organic soils are included with the mineral soils of the same capability rating.
[2] Based on improvements such as drainage, irrigation, dyking, stone removal, etc.

Class 5 soils, which are capable of producing perennial forage crops only, occupy an additional 6.7 million hectares. With proper drainage, irrigation, dyking and other improvements, however, another 1 million hectares have capability for field crop production.

Most of the agricultural land in British Columbia has been designated Agricultural Land Reserve (ALR) under the *Agricultural Land Commission Act*. ALRs have been established over 4.7 million hectares of both private and Crown land in an effort to preserve agricultural land and to encourage development of the agricultural industry. Table 9 indicates the change in total area of the ALR since its inception in 1973.

As of 1986, approximately 2 million hectares of land in the province were classified as census farmland (farm operations with sales exceeding $2,500 in 1986). Most of this land is owner-operated.

TABLE 9

AREA OF AGRICULTURAL LAND RESERVES IN BRITISH COLUMBIA

	Area (ha)	Percent	Percent Change Since 1984
TOTAL A.L.R. at Designation (1973)	4,721,295	100.0	N.A.
Inclusions since designations	75,105	1.6	83.0
Exclusions on request of Government	75,551	−1.6	26.7
Exclusions on request of individuals	21,398	−0.5	30.1
Exclusions subsequent to appeal	3,359	−0.1	40.2
Current A.L.R. as of January 1988	**4,696,092**	**99.5**	**0.3**

Source: British Columbia, Agricultural Land Commission Agricultural Land Reserve Statistics, Burnaby.

Of the areas not owned, a significant portion is Crown land leased from the Ministry of Crown Lands. Although most census farmland with high land capability is within the ALR, the actual percentage is not known.

Of the 2.4 million hectares of census farmland in the province, less than half is presently used for crop production. Although the vast majority of "unimproved" farmland has low capability for agriculture (i.e. Classes 4 and 5), there are some private lands with high capability which remain unused for agriculture. These areas, along with arable Crown lands, offer the greatest potential for further agricultural development opportunities in the province.

TABLE 10

SOIL CAPABILITY FOR AGRICULTURE IN THE AGRICULTURAL LAND RESERVES—1978

Soil Capability Classification	Percent
1	1.0
2	6.0
3	15.0
4	31.0
5	32.0
6	9.0
7	4.0
	98.0
Water	2.0
TOTAL	100.0

Source: Select Standing Committee on Agriculture (1978) Inventory of Agricultural Land Reserves in B.C. Phase 1 Research Report. Victoria.

TABLE 11

TENURE OF FARMLAND IN BRITISH COLUMBIA—1986

	Area (ha)	Percent	Percent Change Since 1981
TOTAL Area Owned by Operator	1,457,107	60.4	–5.2
TOTAL Area Rented by Operator	953,952	39.6	48.7
TOTAL Area	**2,411,059**	**100.0**	**10.7**

Source: Statistics Canada (1986), Cat. No. 96-112

TABLE 12

USE OF FARMLAND IN BRITISH COLUMBIA—1986

	Area (ha)	Percent	Percent Change Since 1981
Improved Land			
Field Crops	570,843	23.7	0.5
Improved Pasture	206,428	8.5	–22.7
Summer Fallow	81,166	3.4	27.8
Other Improved	41,831	1.7	–12.3
TOTAL Improved Land	**900,268**	**37.3**	**–4.9**
Unimproved Land			
Woodland	154,515	6.4	–24.3
Other Unimproved	1,356,274	56.3	31.9
TOTAL Unimproved Land	**1,510,789**	**62.7**	**22.6**
TOTAL Area	**2,411,057**	**100.0**	**10.7**

Source: Statistics Canada (1986), Cat. No. 96-112.

Forest Land

British Columbia has approximately 44 million hectares of productive forest land, of which 43.3 million hectares are provincial Crown land managed by the Ministry of Forests for timber production. The remainder consists of Crown-granted lands within certified tree farms and federal Indian Reserve lands having productive forest.

Of the 43.3 million hectares of Crown land classed as productive forest, only 22.6 million hectares are considered presently productive, available and suitable for timber production (Table 13). Forest land which is not presently productive includes 14.7 million hectares of inaccessible areas and problem forest types, and 3.5 million hectares of land not satisfactorily restocked or with non-commercial stands. In addition, there are 2.4 million hectares of environmentally sensitive areas and forest land in the process of being converted to other uses.

Virtually all of the productive forest land in the province plus extensive areas of rangeland, wetlands and alpine lands have been designated as provincial forest under the *Forest Act*. Provincial forests are multiple use lands intended for timber production, forage production, forest-oriented recreation, water management and fisheries and wildlife resource purposes. Although non-forest uses such as recreational cottaging may be permitted in provincial forests under certain conditions, they are generally discouraged. As of March 31, 1988, approximately 74 million hectares of Crown land in the province had been designated as provincial forest.

Provincial forests are administered using two important types of management units: Timber Supply Areas (TSAs) and Tree Farm Licences (TFLs). TSAs consist of provincial Crown land from which the established annual allowable cut is normally committed for varying periods to many licencees under a variety of timber harvest. TFLs usually include some private land as well as provincial Crown land and are committed to a single licencee.

The province's forest land base presently supports an annual allowable cut of 72 million cubic metres. Approximately 74 percent of this annual allowable cut is taken from TSAs and the remaining 26 percent comes from TFLs. An additional 3 million cubic metres of timber harvest occurs on private and federal lands (B.C. Assessment Authority and Canadian Forestry Service, 1988). Annual timber harvests have been increasing at a steady rate since 1972 peaking at over 240,000 hectares in the fiscal year 1986-87 (Table 14). However, as shown in Figure 3, comparing the two methods of harvesting techniques over the last 7 year period, clear cut harvesting has increased 37 percent while the selective cut method has declined nearly 17 percent.

On average, approximately 199,000 hectares are logged each year in British Columbia. Another 41,000 hectares of forest land are burned by wildfires each year.

TABLE 13

AVAILABILITY AND SUITABILITY OF FOREST LAND FOR HARVESTING IN BRITISH COLUMBIA—1984 (hectares)

Land Classification Areas	Timber Supply Areas	Tree Farm Licences	Total	Percent
Presently Available and Suitable	19,963,746	2,642,826	22,606,572	25.4
Not Stocked[1]	3,386,928	73,440	3,560,368	4.0
Potentially Available and Suitable	**23,350,674**	**2,816,266**	**26,166,940**	**29.4**
Not Available[2]	2,285,939	97,807	2,383,746	2.7
Not Suitable[3]	13,908,719	805,198	14,713,917	16.6
TOTAL Forest Land	**39,545,332**	**3,719,271**	**43,264,603**	**48.7**
Not Productive[4]	35,488,643	3,216,650	38,705,293	43.5
Alienated[5]	6,325,056	612,966	6,938,022	7.8
TOTAL Area[6]	**81,359,031**	**7,548,887**	**88,907,918**	**100.0**

Source: Ministry of Forests.

[1] Not satisfactorily restocked, disturbed (stocking doubtful) and non-commercial brush.
[2] Environmentally sensitive areas, anticipated withdrawals and withdrawals in process.
[3] Inoperable areas and problem forest types.
[4] Alpine forest, water, open range and other; includes some Wilderness and Wildlife areas.
[5] Crown grants, parks and miscellaneous.
[6] Excludes major parks and settlement areas.

TABLE 14

AREA HARVESTED FOR TIMBER IN BRITISH COLUMBIA[1] 1972–1987 (hectares)

Year	Clear Cut	Selective Cut	Total
1972	132,965	19,428	152,393
1973	149,250	23,926	173,176
1974	130,849	18,004	148,853
1975	100,501	19,070	119,571
1976	133,277	23,699	156,976
1977	147,897	28,055	175,952
1978	140,169	25,912	166,081
1979	168,820	27,713	196,533
1980	157,395	30,152	187,547
1981	144,786	22,439	167,225
Ten Year Average 1972-81	**140,591**	**23,840**	**164,431**
1980-81[2]	156,786	31,048	187,834
1981-82	125,148	22,741	147,889
1982-83	134,430	27,742	162,172
1983-84	183,670	24,582	208,252
1984-85	187,023	29,394	216,417
1985-86	204,504	27,226	231,730
1986-87	214,530	25,877	240,407
Seven Year Average 1980-87	**172,299**	**26,944**	**199,243**

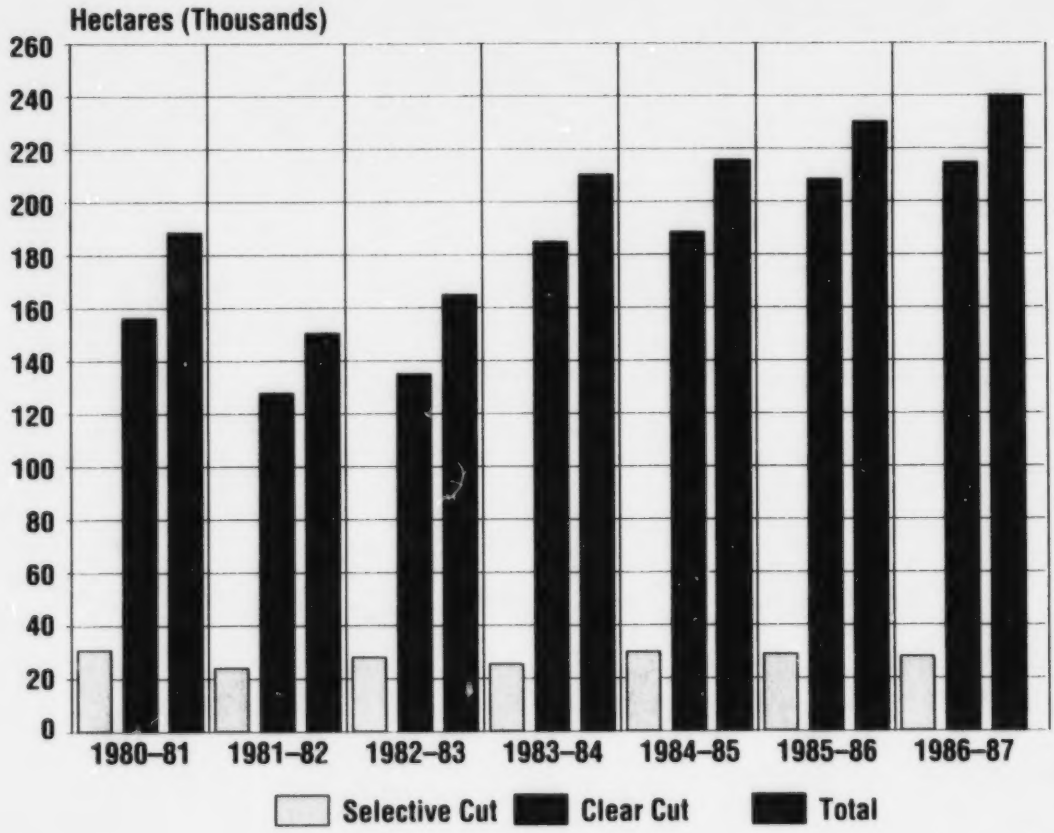
Source: Ministry of Forests, Annual Reports 1986-87 to 1980-81 and 1981 Annual Report Statistical Supplement.

[1] Includes all Crown land and excludes all private lands except those in Tree Farm Licences, Tree Farms and Farm Woodlot Licences.

[2] Starting in 1980 all data was recorded for fiscal years rather than calendar years.

FIGURE 3

AREA HARVESTED FOR TIMBER IN BRITISH COLUMBIA 1980–1987



The quality of forest land in the province is highly variable. Only 19 million hectares (44 percent of the province's productive forest land) are rated medium to good in terms of producing commercial stands of timber. These highly productive lands are generally found along the west coast and in the interior wet belt. The remaining 24.3 million hectares of forest land in the province are comprised of poor and low site class lands (Table 15 and Figure 4).

TABLE 15

QUALITY OF PRODUCTIVE FOREST LAND IN BRITISH COLUMBIA–1984 (hectares)

Site Class	Age Class Immature	Age Class Mature	Total	Percent
Tree Farm License				
Good	180,363	253,309	433,672	10.9
Medium	817,188	1,103,545	1,920,733	48.4
Poor	280,523	1,003,608	1,284,131	32.4
Low	53,733	275,077	328,810	8.3
TOTAL TFL	**1,331,807**	**2,635,539**	**3,967,346**	**100.0**
Timber Supply Area				
Good	968,435	1,918,350	2,886,785	7.3
Medium	5,038,709	8,693,931	13,732,640	35.0
Poor	7,690,895	11,990,318	19,681,213	50.1
Low	1,374,213	1,609,960	2,984,173	7.6
TOTAL TSA	**15,072,252**	**24,212,559**	**39,284,811**	**100.0**
TFL and TSA				
Good	1,148,798	2,171,659	3,320,457	7.7
Medium	5,855,897	9,797,476	15,653,373	36.2
Poor	7,971,418	12,993,926	20,965,344	48.5
Low	1,427,946	1,885,037	3,312,983	7.6
TOTAL Forest Land	**16,404,059**	**26,848,098**	**43,252,157**	**100.0**

Source: Ministry of Forests, Forest and Range Resource Analysis, 1984.

FIGURE 4

PRODUCTIVE FOREST LAND IN BRITISH COLUMBIA

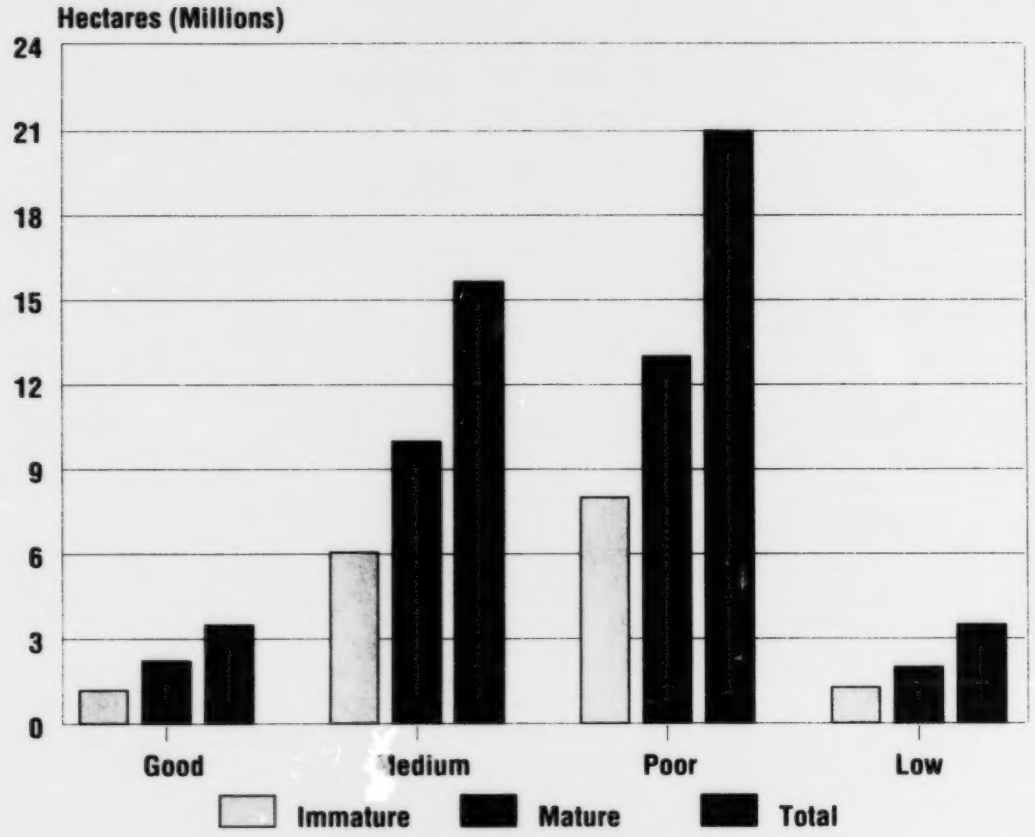


TABLE 16

FOREST COVER WITHIN TIMBER SUPPLY AREAS IN BRITISH COLUMBIA–1984 (hectares)

Growth Type	Age Class Immature	Age Class Mature	Total	Percent
Fir	1,854,737	1,256,059	3,110,796	7.9
Cedar	93,122	1,518,343	1,611,465	4.1
Hemlock	476,047	2,047,734	2,523,781	6.4
Balsam	984,780	3,803,572	4,788,352	12.2
Spruce	3,227,223	5,694,481	8,922,704	22.7
White Pine	13,458	53,505	66,963	0.2
Lodgepole Pine	5,726,676	8,073,969	13,800,645	35.1
Ponderosa Pine	41,803	49,506	91,309	0.2
Larch	279,820	62,388	342,208	0.9
Deciduous	2,374,586	1,652,002	4,026,588	10.3
TOTAL	**15,072,252**	**24,211,559**	**39,284,811**	**100.0**

Source: Ministry of Forests, Strategic Studies Branch

In terms of forest cover, the Ministry of Forests has defined ten distinct forest growth types in TSAs. These growth types are based on combinations of "inventory type groups" having common leading tree species. The two most common growth types, lodgepole pine and spruce, cover more than half the forest land in TSAs (Table 16). It should be noted that although a tree species is most commonly found in association with its own growth type, it can also occur in stands of other growth types. Comparable data on growth types for TFLs is not available.

TABLE 17

STATUS OF RANGELAND IN BRITISH COLUMBIA

LAND STATUS	Area (ha)	Percent
Provincial Crown Land		
Grazing Permits and Licences (1984)[1]	8,322,903	82.8
Community Pastures (1983)[2]	167,700	1.7
TOTAL	**8,490,603**	**84.5**
Private Land (Census Farms)[3]		
Improved Pasture (1986)[4]	206,428	2.0
Other Unimproved Land (1986)[5]	1,356,274	13.5
TOTAL	**1,562,702**	**15.5**
TOTAL Utilized Rangeland	**10,053,305**	**100.0**

[1]Ministry of Forests, Strategic Studies Branch.
[2]Ministry of Agriculture and Fisheries, Regional Extension Services, 1983 Community Pasture Annual Report.
[3]Statistics Canada, 1986, Cat. No. 96-112. May include some Crown leased land.
[4]Pastures or grazing land which has been improved by cultivation, drainage, irrigation, fertilization, seeding or spraying.
[5]Native pasture, unimproved hay land, rangeland, sloughs, marshes or rocky land.

Rangeland

There are approximately 10 million hectares of rangeland in British Columbia. Rangeland is defined as land having usable forage for grazing and includes grasslands, open forests, forested range, wet meadows and pasture lands. In addition to providing forage for spring, summer and fall grazing of beef cattle, many rangeland areas also support significant wildlife populations.

The vast majority of rangeland in British Columbia is Crown range administered by the Ministry of Forests. Most, but not all of the province's Crown range is located within provincial forest boundaries and thus is managed in a multiple use context with other forest resources. Over 8.3 million hectares of Crown range are under permit or licence for grazing purposes. Crown range also includes 168,000 hectares of community pasture reserves which are used co-operatively by several ranchers and intensively managed for grazing purposes (Table 17).

Crown range provides 924,000 animal unit months of forage annually (i.e. enough forage to support 231,000 cows and calves for four months of grazing). The most extensively used rangelands include the dry fir and larch forests, forest lands in transition to rangeland, open range and lodgepole pine forests, all of which are primarily located throughout the south and central interior of the province. The potential for the province's Crown rangeland to support an increased level of grazing use is not known, but it is generally acknowledged that the carrying capacity of Crown range is approaching the maximum limit.

Private range land encompasses an estimated 1.56 million hectares, including 166,000 hectares of Crown land under grazing lease from the Ministry of Crown Lands. Statistics on the use and cover of private rangelands are not known.

TABLE 18

USE AND COVER OF RANGELAND FOR TIMBER SUPPLY AREAS IN BRITISH COLUMBIA–1984

Land Cover	Utilized Crown Range (ha)	Animal Unit Months	Percent (AUM)
Open Range	221,232	122,293	13.2
Wetland	275,299	61,077	6.6
Alpine	277,400	17,394	1.9
Ponderosa Pine Forest	56,104	18,597	2.0
Dry Forest	1,228,399	206,219	22.3
Lodgepole Pine Forest	1,799,203	112,569	12.2
Wet Forest	630,398	19,121	2.1
Deciduous Forest	1,420,057	76,285	8.2
Transitional	1,894,299	185,075	20.0
Clearings	95,334	76,293	8.3
Non-Vegetated	6,251	108	—
Brush	386,882	19,246	2.1
Urban	32,045	9,773	1.1
TOTAL	**8,322,903**	**924,050**	**100.0**

Source: Ministry of Forests, Strategic Studies Branch.

Aquaculture

Aquaculture is the controlled raising of animals and plants that live in water. British Columbia's aquaculture industry includes all aspects of nursery, hatchery, grow-out and processing stages. The majority of activity is concentrated in the south coastal waters of the province. Producing harvests are finfish–Chinook, Atlantics, Coho salmon, and Rainbow trout; shellfish–oysters, mussels and clams; and plants–seaweed and plant feed. Currently, there are 540 operating aquaculture farms covering 2,400 hectares (Table 19).

TABLE 19

OPERATING AQUACULTURE FARMS IN BRITISH COLUMBIA–1987

Species Type	Number	Area (ha)	Percent
Finfish	152	746	31.0
Shellfish	384	1617	67.1
Plants	4	45	1.9
TOTAL[1]	**540**	**2408**	**100.0**

Source: Ministry of Crown Lands, Land Policy Branch, December 1987.

[1]Includes Leases and Licences of Occupation.

Wildlife Land

Wildlife land includes lands which have sufficient food, protective cover and space to support and maintain wildlife populations. Approximately two-thirds of the land area in British Columbia has been mapped in terms of its capability to support the production of wild ungulates. Species include deer, moose, elk, caribou, mountain goat and mountain sheep.

Approximately 3 million hectares are rated as having a high to very high capability for ungulate production (CLI Classes 1W, 1, 2W, and 2) (Table 20).

TABLE 20

LAND CAPABILITY FOR UNGULATES IN BRITISH COLUMBIA

CLI Class[1]	Area (ha)	Percent
1W	302,431	0.3
1	2,347	0.0
2W	2,665,780	2.8
2	163,026	0.2
TOTAL Higher Capability Classes	**3,133,584**	**3.3**
3W	5,998,255	6.3
3	8,304,362	8.8
4	21,738,247	22.9
5	14,674,035	15.5
6	4,279,778	4.5
7	1,360,856	1.4
Unclassified	525,013	0.6
TOTAL CLI Coverage	**60,014,130**	**63.3**
Unsurveyed	34,765,870	36.7
TOTAL Area	**94,780,000**	**100.0**

Source: Environment Canada, Lands Directorate 1980, Land Capability Classification for Wildlife–Ungulates: Summary Report, CLI Report No. 17, Ottawa.

[1]Class ratings followed by a W indicate winter range capability.

TABLE 21

LAND WITH HIGH CAPABILITY FOR UNGULATES IN BRITISH COLUMBIA BY SPECIES (hectares)

Species	CLI Class 1 and 2	CLI Class 1W, 2W and 3W[1]	Total Area	Percent of Total CLI Coverage (Table 20)
Cariboo	77,182	675,771	752,953	1.3
Deer	58,256	4,252,789	4,311,045	7.2
Elk	47,874	906,972	954,846	1.6
Goat	17,509	497,846	515,355	0.9
Moose	35,163	5,802,649	5,837,812	9.7
Mountain Sheep	58,081	204,088	262,169	0.4

Source: Environment Canada, Lands Directorate 1980, Land Capability Classification for Wildlife–Ungulates: Summary Report, CLI Report No. 17, Ottawa.

[1]Class ratings followed by a W indicate winter range capability.

Almost all of these high capability lands are winter range on which animals from surrounding areas depend for survival during the winter season. The Canada Land Inventory has also identified approximately 650,000 hectares as having high land capability for waterfowl production (Classes 1, 2 and 3) (Table 22).

Much of the land in the province with high capability for ungulates has been settled and is no longer available for ungulate production. This has led to increasing public pressure to have the remaining high capability lands retained for ungulate use. Most Crown land with high ungulate capability is now included within provincial forests and managed by the Ministry of Forests in conjunction with the Ministry of Environment.

TABLE 22

LAND CAPABILITY FOR WATERFOWL IN BRITISH COLUMBIA

CLI Class	Area (ha)	Percent
1	5,100	—
1S[1]	700	—
2	47,200	0.1
2S	6,200	—
3	132,400	0.1
3S	58,200	0.1
3M[2]	400,000	0.4
TOTAL Higher Capability Classes	**649,800**	**0.7**
4	204,600	0.2
5	555,200	0.6
6	4,069,700	4.3
7	58,198,000	61.4
Unclassified[3]	23,500	—
TOTAL CLI Coverage	**63,700,800**	**67.2**
Unsurveyed	31,079,200	32.8
TOTAL Area	**94,780,000**	**100.0**

Source: Environment Canada, Lands Directorate 1981, Land Capability for Wildlife–Waterfowl: Summary Report. CLI Report No. 16, Ottawa.

[1] Class ratings followed by an S indicate migration stops for waterfowl.
[2] Class ratings followed by an M indicate migration or wintering areas.
[3] Includes areas not in Canada Land Data Systems.

TABLE 23

STATUS OF WILDLIFE AND FISHERIES LAND IN BRITISH COLUMBIA–1988

Status of Land	1988 Area (ha)	Percent	Percent Change Since 1981
Provincial Crown			
Land Act Designations			
Order in Council (Sec. 11)	323,464	36.6	–12.3
Map Reserves (Sec. 12)	355,891	40.2	0.4
Designated Use (Sec. 13)	352	—	—
Notations of Interest	136,187	15.4	–5.2
Forest Act			
Map Notations	1,635	0.2	N.A.
Crown Land[1]			
Transfer of Administration (Sec. 101)	52,498	5.9	751.8
Greenbelt Act Designations	9,559	1.1	187.6
Fee Simple Title	2,159	0.2	8.3
Lease	1,254	0.1	–22.4
Other Crown Land	1,624	0.2	–21.7
TOTAL Provincial Crown	**884,623**	**100.0**	**0.3**
Federal Crown			
National Wildlife Areas (1986)	2,301	42.7	–2.5
Migratory Bird Sanctuaries	3,091	57.3	6.7
TOTAL Federal Land	**5,392**	**100.0**	**2.6**
Private Lands[1]			
Nature Conservancy of Canada	298	4.8	—
The Nature Trust (1987)	5,895	95.2	87.9
TOTAL Private	**6,193**	**100.0**	**–54.3**
TOTAL Wildlife and Fisheries Lands	**896,208**	**100.0**	**–0.7**

Source: Robinson, D.J., 1982, "Wildlife Management and Land Use: How are We Faring for Space?" in British Columbia Land for Wildlife: Past, Present and Future., and Ministry of Environment, Victoria, 1988.

[1] Administered by Wildlife and Recreational Fisheries Branches, Ministry of Environment.

Areas set aside exclusively for wildlife management in British Columbia presently encompass approximately 800,000 hectares of Crown land (Table 23). As indicated in Table 24, most of the protected wildlife lands have been established in upland habitat winter range, with only minor amounts of estuaries and freshwater protected.

TABLE 24

HABITAT TYPE OF PROVINCIAL WILDLIFE AND FISHERIES LANDS IN BRITISH COLUMBIA

Habitat Type	Area (ha)	Percent
Marine Intertidal Estuarine	35,639	4.1
Freshwater Wetlands	26,185	3.0
Upland Habitat	812,878	92.9
TOTAL	**874,702**	**100.0**

Source: Robinson, D.J., 1982, "Wildlife Management and Land Use: How are We Faring for Space?" in British Columbia Land for Wildlife: Past, Present and Future., and Ministry of Environment, Victoria. 1988.

Wetland

Wetlands in British Columbia are classified under five major headings: marshes, bogs, swamps, fens and shallow water. Within the Pacific Coastal region, flood plains and deltaic-estuaries may contain extensive freshwater and brackish marshes, while tidal flats may include salt marshes. Recent concerns over the depletion of natural wetland areas and their importance to ecological, hydrological and recreational functions has led to the establishment of the Prime Wetlands Project as part of the Canada Land Use Monitoring Program. Estimates indicate that approximately 3 percent of the province's land base, or 3,120,000 hectares, is covered by various wetland types.

Recreation Land

Almost all of British Columbia's land has some capability to support one or more recreational activities. Much of the province is rated Class 4 through 6 by the Canada Land Inventory (Table 25). These areas are considered capable of supporting relatively dispersed recreation activities such as hiking and nature study. Lands rated Classes 1 to 3, although less widespread, are capable of supporting more intensive recreation activities including bathing, skiing and organized camping. Less than 200,000 hectares within the classified portion of the province has a high capability to support intensive recreatonal use (Classes 1 and 2). These high capability areas are generally located adjacent to waterbodies having a shoreline length of over 2,000 kilometres.

TABLE 25

LAND CAPABILITY FOR RECREATION IN BRITISH COLUMBIA

CLI	Land Area (ha)	Percent	Shoreline Length (km)
1	18,612	—	347
2	161,339	0.2	1,782
3	1,028,429	1.1	10,698
4	4,731,590	5.0	26,055
5	13,944,559	14.7	26,927
6	36,269,084	38.2	6,843
7	3,286,814	3.5	1,956
TOTAL CLI Coverage	**59,440,427**	**62.7**	**74,608**
Unsurveyed	35,339,573	37.3	N.D.
TOTAL Area	**94,780,000**	**100.0**	N.D.

Source: Environment Canada, Lands Directorate (1970), Land Capability for Recreation: Summary Report by M.C. Taylor, Ottawa.

TABLE 26

PARKLAND IN BRITISH COLUMBIA–1989

Type	Number	Area (ha)	Percent	Percent Change Since 1984
Federal				
National Parks[1]	7	475,999	8.2	N.A.
Provincial[2]				
Class A Parks	310	4,254,314	72.7	40.9
Class B Parks	2	3,857	0.1	–99.7
Class C Parks	30	953	—	–21.4
Recreation Areas	35	973,854	16.7	270.6
Wilderness Conservancies	1	131,523	2.2	N.A.
TOTAL Provincial Park Areas	**378**	**5,364,501**	**91.7**	**15.5**
Regional Parks[3]	74	8,128	0.1	3.5
TOTAL Park Areas	**459**	**5,848,628**	**100**	**13.9**

Source: Environment Canada, Lands, 1987. Heritage Conservation—The Natural Environment, by E. N. Ward and B. Killham, Ottawa; and B. C. Ministry of Parks, Parks and Recreation Division.

[1] 1987 figures - includes Migratory Bird Sanctuaries, National Wildlife Areas, National Parks and Historic National Parks. Does not include the proposed National Park Areas of the Bruce Peninsula and South Moresby.
[2] Properties under the B.C. Provincial Act as of February 15, 1989.
[3] Regional Parks 1987 figures.

Most land with high capability for intensive and extensive outdoor recreation has been reserved as parkland. Approximately 5.3 million hectares of provincial parkland, recreation areas and wilderness conservancies are managed by the Ministry of Parks. In addition, there are 7 national parks encompassing approximately 500,000 hectares, plus numerous smaller regional parks administered by regional districts (Table 26). Provincial parks are established under the *Park Act* and are categorized according to a number of different classifications:

Class "A" parks are intended to preserve outstanding natural, scenic and historic features for public recreational use. No commercial or industrial exploitation is permissible except when required to maintain recreational values.

Class "B" parks are intended for public recreational use. Other resource use may be permitted provided it does not detract from the recreational potential of the park.

Class "C" parks are intended primarily for recreational use by local residents and are managed by park boards appointed from area residents. No commercial or industrial exploitation is permissible except as may be necessary to provide planned recreational use.

Recreation Areas are temporary park reserves which have resource commitments within their boundaries from earlier history or are having a mineral resource evaluation done under a time-limited tenure. In either case, no new commercial logging will be allowed and these lands may become Class A parks on resolution of the tenures or on completion of the evaluation.

Nature Conservancy Areas are roadless areas within provincial parks or recreation areas reserved absolutely for the preservation of representative ecosystems and landforms in their natural state.

Wilderness Conservancies are roadless tracts in which both natural and ecological communities are preserved intact. The province's only wilderness conservancy is established pursuant to the *Environment and Land Use Act*, but administered by the Ministry of Parks.

Forest Lands are also used for recreational purposes. The Forest Service presently maintains 1,130 recreational sites and 1,250 kilometres of trails on Crown land under its jurisdiction.

There is also an unknown amount of private and Crown recreational land used for cottaging and various commercial recreation activities, including skiing, fishing and hunting camps and marinas.

Mineral and Petroleum Resource Land

About 5 percent of the province's sub-surface land has high potential for mineral and coal production, while another 20 percent has only moderate potential. In addition, extensive areas of the province's northeast and offshore areas have potential for petroleum production. Some of this potential has already been realized through the mining of economically viable deposits. Many known deposits remain undeveloped, and others are yet to be discovered.

Approximately 95 percent of the province remains open for mineral exploration. In February of 1988, permits issued for petroleum and natural gas exploration purposes by the Ministry of Energy, Mines and Petroleum Resources covered an estimated 2.6 million hectares (Table 27). A further 2.1 million hectares of mineral claims were issued for exploration on Crown land (Table 28).

TABLE 27

PETROLEUM AND NATURAL GAS TENURES IN BRITISH COLUMBIA–1988

	Number	Area (ha)	Percent	Percent Change Since 1982
Petroleum and Natural Gas Permits	179	2,650,697	37.5	–57.1
Petroleum and Natural Gas Leases	6,661	3,753,056	53.0	–30.0
Drilling Licences	223	672,930	9.5	430.7
TOTAL	**7,063**	**7,076,683**	**100.0**	**–39.3**

Source: B.C. Ministry of Energy, Mines and Petroleum Resources, Drilling and Land Report, Unpublished, February, 1988.

TABLE 28

STATUS OF MINERAL LAND IN BRITISH COLUMBIA–1988

Land Status	Area (ha)	Percent	Percent Change Since 1983/84
Crown Mineral Lands			
Mineral Claims[1]	1,984,000	72.0	–25.6
Placer Mining Leases[2]	75,000	2.7	58.7
Mineral Leases	3,500	0.1	–3.7
Quarry Leases (Land Act)	6,702	0.2	9.5
TOTAL Crown Mineral Lands	**2,069,202**	**75.0**	**–24.0**
Private Mineral Lands[3]			
Undesignated Mineral Lands	459,780	16.7	–5.0
Agricultural Forgiveness	205,443	7.5	6.8
Production Areas	8,654	0.3	–8.7
Production Tracts	12,481	0.5	307.2
Charity	968	—	69.8
TOTAL Private Mineral Lands	**687,326**	**25.0**	**–0.3**
TOTAL Mineral Lands	**2,756,528**	**100.0**	**–19.2**

Source: Ministry of Energy, Mines, and Petroleum Resources, Mineral Titles Branch, Title Recording Statistics and Mineral Revenue Branch, January, 1988.

[1] 79,360 mineral claim units times maximum size of 25 ha.
[2] 1,500 placer mining leases times maximum size of 50 ha.
[3] Areas of land over which mineral rights have been privately acquired, but presence of minerals not necessarily determined (mineral land tax assessment roll designations for tax purposes).

The Ministry of Energy, Mines and Petroleum Resources administers mineral and placer mining leases covering 78,000 hectares of Crown land, plus petroleum and natural gas leases on 3.8 million hectares. These leases provide rights to individuals and companies to proceed with actual production.

In addition to this activity on Crown land, 700,000 hectares of private land are also subject to mineral exploration and/or production in the province.

The surface area of land actually used for the extraction of minerals and petroleum resources is relatively limited compared to the area under tenure. Although 74,000 hectares of land in British Columbia have been utilized for mining activity and mining waste, (which include metal, placer and coal mines, limestone quarries, and sand and gravel pits), approximately 20,800 hectares of land is disturbed by metal and coal mines, of which 3,900 hectares have been reclaimed (Table 29). Comparable data for petroleum extraction are not available.

TABLE 29

LAND AREA DISTURBED AND RECLAIMED BY MINING IN BRITISH COLUMBIA (hectares)

Type of Mine	Mining Activity	Percent Change Since 1984	Area Reclaimed
Metal Mines[1]	14,097	−22.2	2,312
Coal	6,665	7.9	1,599
TOTAL	**20,762**	**−14.5**	**3,911**

Source: Ministry of Energy, Mines, and Petroleum Resources, Engineering and Inspection Branch, Unpublished data, 1984.

[1] Does not include land area disturbed by sand and gravel pits or limestone quarries.

Settlement Land

Settlement land refers to land used for residential, commercial and industrial purposes. Although firm statistics on the area of land in settlement use in the province are not known, it has recently been estimated by Hansen (1986) that there were approximately 321,000 hectares of land in urban and rural settlement, and farmsteads in 1986 (Table 30).

It is generally acknowledged that most settlement land in the province is privately owned and located within local boundaries. However, there are no statistics available to confirm this. The use of these lands is subject to zoning bylaws and community plans administered by municipal governments.

There are also extensive areas of settlement land located in rural and unorganized areas of the province. These rural settlement lands include lands used for residential purposes, hobby farms, and highway-related commercial and industrial activity. Administration of settlement land use in unorganized areas is the responsibility of the appropriate regional district.

TABLE 30

BUILT-UP LAND IN BRITISH COLUMBIA–1986

Land Type	Area (ha)	Percent	Percent Change Since 1981
Urban and Rural Settlement	295,162	53.8	6.8
Transportation	227,608	41.4	3.9
Farmstead	26,230	4.8	0.6
TOTAL	**549,000**	**100.0**	**5.3**

Source: Agriculture Canada, 1988, Profile of the Agri-food Industry in British Columbia., New Westminster.

TABLE 31

URBANIZATION OF RURAL LAND IN BRITISH COLUMBIA 1981–1986

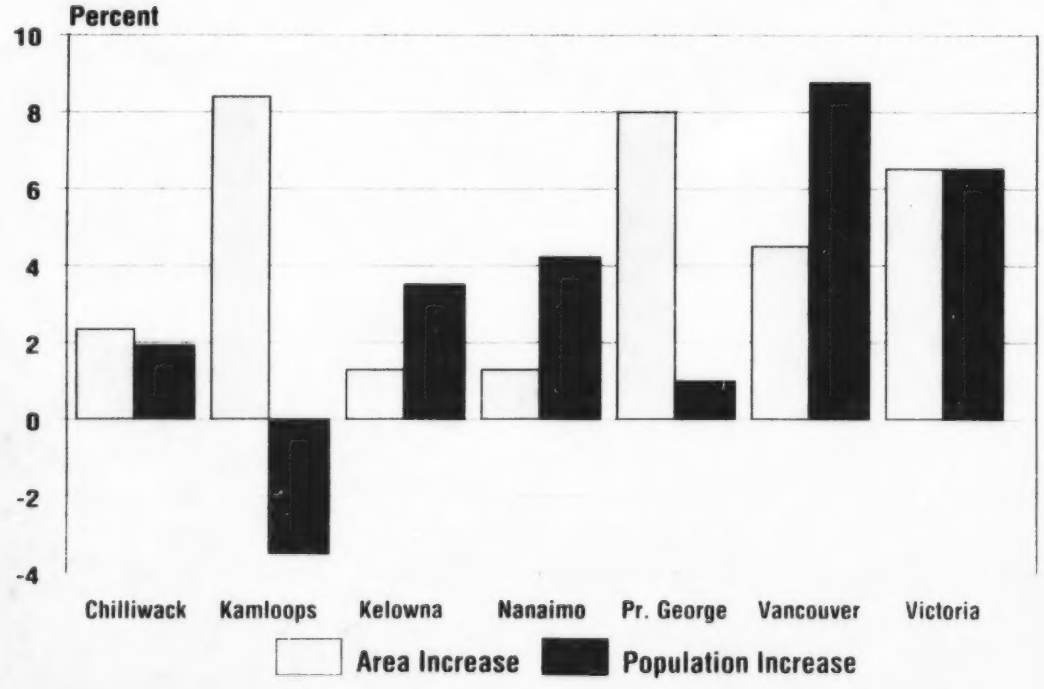
Urban Centre[1]	Base Year	Urban Increase (ha) 1981–86	Population Increase 1981–86	Percent Increase Population 1981–86	Percent Increase Urban Area 1981–86
Chilliwack	1981	494	1,250	1.9	2.3
Kamloops	1981	504	–2,275	–3.5	8.5
Kelowna	1981	120	3,564	3.4	1.3
Nanaimo	1981	199	2,715	4.2	1.3
Prince George	1981	745	62	1.0	8.0
Vancouver	1981	3,385	112,546	8.9	4.4
Victoria	1981	1,719	14,153	6.4	6.4
TOTAL		**7,166**	**132,015**	**N.A.**	**N.A.**

Source: Environment Canada, Lands Directorate, Canada Land Use Monitoring Program, Ottawa, February 1988.

[1]Urban centred regions with populations of 25,000 or more. Preliminary figures.

FIGURE 5

PERCENTAGE OF URBAN AREA AND POPULATION GROWTH FOR UCRs[1] IN BRITISH COLUMBIA 1981–1986



[1]UCR denotes Urban Centred Regions

Prime renewable resource lands constitute a major source of land for urbanization. Urban activities are those uses of land which remove the potential for renewable-resource use by the construction of buildings and urban infrastructure. The demand for land in and around urban areas may in part be related to population shifts and changes. The population of British Columbia increased by 5.9 percent between 1981 and 1986 to 2.9 million. By the end of the same period, 132,000 more persons were living within the 7 largest urban centred regions of the province with populations of 25,000 or more. Table 31 shows that approximately 7,100 hectares of rural land were converted to urban uses between 1981–1986 for the 7 urban centred regions. Accompanying Figure 5 compares population growth to urban area increase for the same period.

Table 32 shows the total area of land assessed for taxation for cities, districts, towns and villages in the province. The 634,000 hectares of assessed land includes extensive areas of agricultural land in addition to residential, industrial and commercial lands.

TABLE 32

MUNICIPAL STATISTICS FOR BRITISH COLUMBIA–1987 (hectares)

	Vancouver	Cities[1]	Districts[2]	Towns	Villages	TOTAL	Percent	Percent Change Since 1982
Area Assessed For Taxation								
Land	6,533	103,802	492,785	6,980	23,707	633,807	56.4	1.0
Water	—	5,954	4,770	153	556	11,433	1.0	12.0
Area Exempt From Taxation								
Public Parks (and Playgrounds)	1,308	4,584	13,500	380	931	20,703	1.8	10.8
Other Land	534	28,813	286,465	1,297	18,127	335,236	29.8	0.7
Water	243	10,877	60,767	1,055	8,748	81,690	7.3	2.4
Streets, Roads and Alleys	2,997	9,979	26,091	814	1,328	41,209	3.7	17.8
TOTAL	**11,615**	**164,009**	**884,378**	**10,679**	**53,397**	**1,124,078**	**100.0**	**N.A.**

Source: Ministry of Municipal Affairs, Recreation and Culture (1988) Municipal Statistics for the Year Ended December 31, 1987. Victoria.

[1]Other than Vancouver.
[2]Districts may include large areas of rural land.

The area of industrial parks and sites in British Columbia is shown in Table 33. A minimum 2,000 hectares of serviced land is available for potential industrial use.

TABLE 33

AVAILABILITY OF INDUSTRIAL LAND IN BRITISH COLUMBIA–1986

Industrial Land Type	Area (ha)	Percent
Occupied Land	4,600	12.5
Available Land (Serviced and Unserviced)	32,000	87.5
TOTAL	**36,600**	**100.0**

Source: Ministry of Regional Development, Inventory of Industrial Parks and Sites in British Columbia (1986).

Other Land Uses

TABLE 34

MAJOR TRANSMISSION LINES AND PIPELINES IN BRITISH COLUMBIA–1983

Category	Total in A.L.R.[1]		Total in B.C.	
	km	ha	km	ha
Transmission Lines				
360 and 500 kv	1,652	10,572	4,694	30,041
230 to 287 kv	895	3,759	2,164	9,089
TOTAL Transmission Lines[2]	**2,547**	**14,331**	**6,858**	**39,130**
Pipelines				
Transmission	1,795	2,692	5,325	7,987
Gathering	370	370	970	970
TOTAL Pipelines	**2,165**	**3,062**	**6,295**	**8,957**
Major Stations				
Transmission Line	N.A.	100	N.A.	270
Pipeline	N.A.	120	N.A.	260
TOTAL Stations	**N.A.**	**220**	**N.A.**	**530**
TOTAL	**4,712**	**17,613**	**13,153**	**48,617**

Source: TERA Environmental Consultants Ltd. (December 1983) Opportunities and Risks Presented to Agriculture by Linear Developments. Project No. 271315 under Canada. British Columbia Subsidiary Agreement on Agriculture and Rural Development.

[1] Agricultural Land Reserve.
[2] Does not include land used for 138 kv circuits.

Transportation and Utility Land

Land used for transportation and utility purposes includes roads, railways, airports, transmission lines and pipelines. Areas used for hydroelectric power development are discussed under the heading Water Supply Land.

There are at least 227,000 hectares of land used for transportation in the province. The area of resource roads, including forest and mineral exploration roads, is not known.

Utility lands include 65,000 hectares of land used for high voltage transmission lines (138 Kv and higher) and 9,000 hectares of land used for pipeline purposes. Information on the area used for low voltage lines and local gas distribution lines is not known (Table 34).

Ecological Reserves

Ecological Reserves are areas of Crown land set aside for:

scientific research and educational purposes to study nature in an undisturbed environment;

representative benchmark areas against which to measure the effect of changes created by man or nature;

banks of genetic material; and

preserving rare, unique and endangered native plants or animals in their natural surroundings.

Ecological Reserves differ from parks, recreational areas and wildlife management areas, in that they are intended primarily for scientific purposes and casual, non-consumptive uses such as hiking, photography and bird watching. As of 1987, 115 Ecological Reserves had been established covering 154,628 hectares (Table 35). One-third of this area is marine or subtidal area.

Heritage Resource Land

Heritage resources comprise the physical effects of past settlement and resource use and include a variety of sites, artifacts, structures and travel routes of prehistoric, historic and cultural importance. As of June 1984 there were 55 provincial and 305 municipal designated heritage sites in British Columbia. In addition, there are approximately 13,000 archaeological sites which have been inventoried plus some 3,000 archaeological sites yet to be catalogued.

TABLE 35

SIX LARGEST ECOLOGICAL RESERVES IN BRITISH COLUMBIA–1987

Name	Object or Community Type Preserved	Area (ha)
Gladys Lake	Stone sheep, mountain goats and their environment	48,560
Checleset Bay	B.C.'s prime sea otter populations and rare native oyster population	34,650 (mostly subtidal)
Byers/Conroy/Harvey/ Sinnett Islands	Important seabird and marine mammal breeding	12,205 (mostly subtidal)
Vladimir J. Krajina (Port Chanal)	Virgin littoral environment, Sitka spruce, rare mosses, seabird colony	9,834 (partly subtidal)
East Redonda Island	Three biogeoclimatic zones with many habitats	6,212
Dewdney Island and Glide Islands	Coastal western hemlock plant communities and marine wildlife	3,845
TOTAL for Six Largest		**115,306**
109 Smaller Reserves [1]		39,322
TOTAL Ecological Reserves		**154,628**

Source: Ministry of Parks, 1987. Ecological Reserves Program. "The Ecological Reserves Program in British Columbia." Victoria.

[1] Does not include 6 scheduled additions to Ecological Reserves beyond 1988 totalling 2291 ha.

Water Supply Land

Water supply lands are lands designated or used for domestic, agricultural or hydroelectric purposes. They include 1.8 million hectares of freshwater area in the province, 1.4 million hectares of community watersheds, plus an unknown amount of land leased by the Greater Vancouver Water District for water supply purposes and land owned by the Greater Victoria Water District. Included within the 1.8 million hectares of freshwater are 336,000 hectares of reservoirs used for electrical generation purposes.

In addition to these water supply lands, there are an additional 591,400 hectares of land within flood reserves for potential hydroelectric generation and flood control purposes in the province.

TABLE 36

DRAINAGE AREA OF MAJOR RIVERS IN BRITISH COLUMBIA

Major Rivers	Drainage Area (ha)	Percent
Fraser	23,000,000	24.3
Columbia*	8,800,000	9.3
Peace*	9,900,000	10.4
Liard*	13,500,000	14.2
Skeena	4,200,000	4.4
Stikine*	2,900,000	3.1
Nass*	2,100,000	2.2
Taku*	1,700,000	1.8
TOTAL Major Rivers	**66,100,000**	**69.7**
Other Rivers	28,680,000	30.3
TOTAL Area	**94,780,000**	**100.0**

Source: Farley, A.L. (1979), Atlas of British Columbia, Vancouver, University of British Columbia Press.

*B.C. portion only

TABLE 37

AREA OF MAJOR LAKES IN BRITISH COLUMBIA

Major Lakes	Area (ha)	Percent
Williston (Reservoir)	175,000	9.7
Nechako (Reservoir)	84,700	4.7
Atlin (B.C. portion)	56,200	3.1
Arrow, Upper and Lower (Reservoirs)	51,800	2.9
Babine	49,700	2.7
McNaughton (Reservoir)	44,500	2.4
Kootenay	42,700	2.4
Stuart	36,000	2.0
Okanagan	35,200	1.9
Shuswap	31,900	1.8
TOTAL Major Lakes	607,700	33.6
Other Water Area	1,199,300	66.4
TOTAL Water Area	1,807,000	100.0

Source: Farley, A.L. (1979), Atlas of British Columbia, Vancouver, University of British Columbia Press.

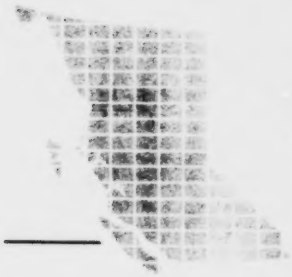
TABLE 38

STATUS OF COMMUNITY WATERSHEDS IN BRITISH COLUMBIA–1987

Watershed Designation	Number of Watersheds	Total Population Served	Total Land Area (hectares)	Percent Area	Percent Change In Area Since 1980
Category I (1500 ha or less)	209	216,400	96,200	6.8	15.1
Category II (1500-9065 ha)	82	178,700	329,400	23.4	2.1
Category III (over 9065 ha)	36	130,400	984,400	69.8	36.3
TOTAL[1]	**327**	**525,500**	**1,410,000**	**100.0**	**24.9**

Source: Ministry of Environment, Water Management Branch, Hydrology Section. Unpublished data, February 1988.

[1]Does not include Greater Vancouver.



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